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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,593	09/15/2003	Shinichi Yasuda	242823US2RD	8075
22850 7590 04/20/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER DO, CHAT C	
			ART UNIT 2193	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/20/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/20/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/661,593	Applicant(s) YASUDA ET AL.	
	Examiner Chat C. Do	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2007 and 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:12/15/03;2/28/05;9/23/05;2/6/06.

DETAILED ACTION

1. This communication is responsive to Election/Restriction filed 03/21/2007.
2. Claims 1-20 are pending in the application. Claims 1 and 11 are independent claims. In Response to Election/Restriction, claims 11-20 are withdrawn from consideration. This Office action is made non-final.

Election/Restrictions

3. Applicant's election of Species I claims 1-10 in the reply filed on 03/21/2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
4. Claims 11-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species II, there is being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 03/21/2007.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations cited in claim 9, particularly the period of the clock and the pulse Tz, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities:

The applicant is advised to update information cited under the "Cross Reference to Related Applications" section in page 1 of original disclosure as necessary.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2-3 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 2, the limitation "the random signal manifests...with an increase of frequency" in lines 10-11 are unclear because it does not clearly define how the frequency is related to the counter circuit or the latch circuit and how the power spectrum intensity structures along with the above circuits. Claim 3 has similar rejection.

Re claim 9, the limitations cited in the claim is unclear of how it relates to the rest of the limitations cited in claim 1 wherein the period of the clock or the pulse is not previously mentioned or addressed in the preceding claim 1.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-10 cite a generator for generating a random number in accordance with a predetermined mathematical algorithm. In order for claims to be statutory, claims must either include a practical/physical application or a concrete, useful, and tangible result. However, claims 1-10 merely disclose components for generating random number

without further disclosing a practical/physical application or a useful and tangible result of the random number. Therefore, claims 1-10 are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-3 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Chevalier (U.S. 3,866,029).

Re claim 1, Chevalier discloses in Figure 1 a random number generator (e.g. Figure 1 wherein the output of component 30 is the random number) comprising: a counter circuit (e.g. component 20 in Figure 1) configured to be supplied with a clock signal and a random signal (e.g. output of clock input 34 and random bits 11 respectively in Figure 1), and to provide a count value of the clock signal with respect to a transition of the random signal (e.g. output of component 20 as C_i in Figure 2); and a first latch circuit (e.g. component 21 in Figure 1 as latch component) configured to latch the count value with respect to the transition of the random signal, and to provide a first random number signal (e.g. output of component 30 as random number in Figure 1).

Re claim 2, Chevalier further discloses in Figure 1 the random signal manifests a characteristic in which power spectrum intensity varies with an increase of frequency (e.g. Figure 1 with component 11 as random bits generator adjustment).

Re claim 3, Chevalier further discloses in Figure 1 the random signal manifests a characteristic in which power spectrum intensity decreases with an increase of frequency (e.g. Figure 1 with component 11 as random bits generator adjustment).

Re claim 7, Chevalier further discloses in Figure 1 a pulse counter is accessible by the clock enable input, and the output of the pulse counter becomes the random signal (e.g. Figure 1 with clock input 34 and random bits 11).

Re claim 8, Chevalier further discloses in Figure 1 an inverter connected between the clock enable input side and a clock input side of the first latch circuit (e.g. load/enb in Figure 1).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being obvious over Chevalier (U.S. 3,866,029) in view of Kent (U.S. 5,222,142).

Re claim 4, Chevalier fails to disclose in Figure 1 a second latch circuit configured to receive a random number acquisition clock signal having a constant period

and the first random number signal, to latch the first random number signal with respect to a transition of the random number acquisition clock signal, and to provide a second random number signal. However, Kent discloses in Figure 5 a second latch circuit (e.g. component 48/16 in Figure 5) configured to receive a random number acquisition clock signal having a constant period (e.g. clock signal) and the first random number signal (e.g. output of 46 in Figure 5), to latch the first random number signal with respect to a transition of the random number acquisition clock signal, and to provide a second random number signal (e.g. output of component 48/16 in Figure 5). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add a second latch circuit configured to receive a random number acquisition clock signal having a constant period and the first random number signal, to latch the first random number signal with respect to a transition of the random number acquisition clock signal, and to provide a second random number signal as seen in Kent's Figure 5 into Chevalier's invention because it would enable to improve the randomized number (e.g. col. 2 lines 37-52),

Re claim 5, Chevalier further discloses in Figure 1 the frequency of the random number acquisition clock is lower than the frequency of the random signal (e.g. Figure 1).

Re claim 6, Chevalier in view of Kent fail to disclose in Figure 1 the transition of the random number acquisition clock signal represents a leading edge of the random number acquisition clock signal when the random number acquisition clock signal changes from a low level to a high level. However, the examiner takes an Office notice that the transition occurs at the raising level by clock signal is well known in the art of

technology. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the transition of the random number acquisition clock signal represents a leading edge of the random number acquisition clock signal when the random number acquisition clock signal changes from a low level to a high level into Chevalier in view of Kent's latch because it would enable to capture/output the signal at the moment the clock goes high.

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being obvious over Chevalier (U.S. 3,866,029).

Re claim 10, Chevalier fails to disclose in Figure 1 the first latch circuit is a D type flip-flop. However, D type flip-flop is well known and widely used in the technology of art as the examiner takes an Office notice. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add the first latch circuit is a D type flip-flop into Chevalier's latch because it would enable to capture/output the signal at the moment the clock goes high.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. U.S. Patent No. 5,007,087 to Bernstein et al. disclose a method and apparatus for generating secure random numbers using chaos.

- b. U.S. Patent No. 5,268,899 to Brown discloses an apparatus for generating pseudo-random numbers in a communication system, or other system involving a shared resource.
- c. U.S. Patent No. 3,777,278 to Majeau et al. disclose a pseudo-random frequency generator.
- d. U.S. Patent No. 6,650,687 to McDonough disclose methods and apparatus for use in simultaneously generating data sequences for spread spectrum communications.
- e. U.S. Patent Publication No. 2004/00379762 to Hars discloses an entropy estimation and decimation for improving the randomness of true random number generation.
- f. U.S. Patent Publication No. 2001/0032224 to Tichenor discloses a system for creating non-algorithmic random numbers and publishing the numbers on the internet.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2193

April 16, 2007

A handwritten signature in black ink, appearing to be 'Chat C. Do', written in a cursive style.